

I CLAIM:

1. A circular saw comprising:

a worktable having front and rear ends opposite to each other in a longitudinal direction;

5 a blade supporting unit including a pivot end which is pivotally connected to said rear end of said worktable about a pivot axis in a transverse direction relative to the longitudinal direction, a free end which is turnable about the pivot axis to be close to and away from said front end
10 of said worktable, and a middle mounting portion which is interposed between said pivot end and said free end, and which includes right and left support walls spaced apart from each other in the transverse direction;

15 a motor having an output shaft for delivering a driving force;

a saw blade shaft mounted on and rotatable relative to said left support wall about a blade axis parallel to the pivot axis, and having a driven end driven by said output shaft of said motor, and a coupling end which is disposed between said
20 right and left support walls;

a saw blade mounted on and rotated with said coupling end of said saw blade shaft;

25 a driving shaft mounted on and rotatable relative to said left support wall about a driving axis parallel to the blade axis, and having a transmitting end which is driven by said output shaft of said motor, and a driving end which is opposite to said transmitting end along the driving axis and which

extends laterally and outwardly of said right support wall;

a dust collecting member disposed between said right and left support walls to confine a dust passageway for collecting wood dust, said passageway having an intake port which is disposed in the vicinity of said saw blade, and an outlet port which is disposed downstream of said intake port and which extends through said right support wall along the driving axis for passage of wood dust;

a blower casing disposed laterally and outwardly of said right support wall, and defining an accommodation chamber which is disposed downstream of said outlet port and which receives said driving end of said driving shaft, said blower casing having a discharge port which extends in a direction radial to the driving axis to be communicated with said accommodation chamber; and

an impeller disposed in said accommodation chamber, and mounted on said driving end of said driving shaft to rotate about the driving axis so as to draw wood dust from said dust passageway into said accommodation chamber and out through said discharge port.

2. The circular saw of Claim 1, wherein said driving end of said driving shaft passes through said outlet port, said outlet port being configured to define an annular outlet hole that receives said driving end for communicating said dust passageway with said accommodation chamber, said blower casing being disposed on said right support wall and rightwardly of said outlet port.

3. The circular saw of Claim 2, wherein said driving shaft is disposed between said pivot end and said saw blade shaft, said dust collecting member including a barrier wall which is disposed on said left support wall and which extends in the transverse direction and angularly about the blade axis to define said intake port such that the wood dust which is flung by a centrifugal force generated during a sawing operation of said saw blade is deflected by said barrier wall so as to be directed towards said outlet port.

4. The circular saw of Claim 3, wherein said impeller includes a hub which is mounted on and which is rotated with said driving end of said driving shaft, and which has proximate and distal ends opposite to each other and relative to said transmitting end of said driving shaft,

an end wall extending from said proximate end in radial directions,

a guiding wall which is spaced apart from said end wall along the driving axis so as to define a diverting space that is communicated with said discharge port, and which has an inlet hole to receive said driving end and to communicate said outlet port with said diverting space, and

a plurality of impeller fins disposed in said diverting space and angularly displaced from one another about the driving axis so as to impel the wood dust out of said discharge port.

5. The circular saw of Claim 4, wherein said inlet hole is aligned with said outlet port along the driving axis and has an inner

diameter that is gradually increased toward said end wall, thereby facilitating drawing of the wood dust into said diverting space.

- 5 6. The circular saw of Claim 5, wherein said driving end of said driving shaft extends rightwardly and outwardly of said distal end of said hub, said circular saw further comprising a grinding unit which includes:

10 a dust guiding member secured on and disposed rightwardly and outwardly of said blower casing, and defining a receiving chamber which permits insertion of said driving end of said driving shaft thereinto, said receiving chamber having a dust guiding port which is disposed upstream of said dust passageway,

15 a grinding wheel member which is disposed in said receiving chamber, which is mounted on said driving end of said driving shaft to rotate about the driving axis, and which has an upper running segment that is exposed outwardly and upwardly of said dust guiding member for performing grinding operation, and that is opposite to said dust guiding port relative to the driving axis, and

20 a working table member having a table wall which is disposed proximate to said grinding wheel member so as to support a workpiece to be ground by said grinding wheel member.

- 25 7. The circular saw of Claim 6, wherein said dust guiding member has an dust inlet port which extends through said right support wall to be communicated with said dust passageway and which is aligned with said dust guiding port in the transverse

direction, and a guiding duct which is formed between said right support wall and said dust guiding member, and which is configured to communicate said dust guiding port with said dust inlet port so as to guide wood dust produced during grinding toward said dust passageway.